

Message

From: Wright, DavidA [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=4F14A47C701547479B12BEE35117D0A9-WRIGHT, DAVID A.]
Sent: 3/4/2015 4:05:31 PM
To: Ball, Joel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=92af2ab6f5274bc597249d04358ef25f-Ball, Joel]; Pidgeon, Bill [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=dfa739a206f04aaea55fabad6939dd01-Pidgeon, Bill]; Sohacki, Lynn [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ef46b8bb626b4d839372e708c5e1c0e9-Sohacki, Lynn]; Snyder, Jim [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=18260d02987d49e280fc03d2a8d18ddd-Snyder, Jim]; Dalton, Joel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5e590ca117f84cc384adcf13b68b4358-Dalton, Joel]; Ott, William [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2e336c9b18744fe7aedff42ebd445c41-Ott, William]; Wehrly, Linc [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=64e5f31ccb4841018441b3bf074842d0-Wehrly, Linc]; Healy, Stephen [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d1638b0a30364c7d98ea7af410a9cb2a-Healy, Stephen]
Subject: FW: EGR flow requirements on LD diesels
Attachments: One page EGR for ARB 150210.pdf

This is the background material for tomorrow's 9:30 am discussion regarding requiring EGR [CBI/Ex. 4] under all operating conditions on LD diesel engines.

Regards,

David

From: Andrew S. Barren [mailto:andrew.s.barren@gm.com]
Sent: Wednesday, February 25, 2015 4:21 PM
To: Seongyup Kim (skim@arb.ca.gov)
Cc: Wright, DavidA; Randall C. Harvey
Subject: FW: EGR [CBI/Ex. 4] requirements on LD diesels

Seongyup,


Just probing to see if there's been any progress on the "EGR [CBI/Ex. 4] on LD diesel" topic. Please advise.

Andy Barren
GM LLC

From: Andrew S. Barren
Sent: Tuesday, February 10, 2015 10:46 AM
To: Kim, Seong@ARB
Subject: RE: EGR [CBI/Ex. 4] requirements on LD diesels

I'm really sorry Seongyup. The copy I sent was really clear, must have been compressed when I sent it. I'm attaching the slide as an attachment. Again, sorry.


Andy

From: Kim, Seong@ARB [<mailto:skim@arb.ca.gov>]
Sent: Tuesday, February 10, 2015 10:33 AM
To: Andrew S. Barren
Subject: RE: EGR  requirements on LD diesels

Hi Andy,

Thanks for your response. By the way, the EGR operation slide in your email is not easily readable. When I enlarged it to read, it blurred, again unreadable. Could you attach the slide and email it to me?

Thanks,
Seongyup

From: Andrew S. Barren [<mailto:andrew.s.barren@gm.com>]
Sent: Monday, February 09, 2015 9:57 AM
To: Kim, Seong@ARB
Cc: David W. Schruppf; Randall C. Harvey; David B. Brown
Subject: RE: EGR  requirements on LD diesels

Seongyup,

Thanks for the reply. Below is a slide (we presented before) showing the comparison of “low EGR” rates as percentage of test cycles and road trip data. These are the two tables on the left. As you can see, real world and test cycles are similar in terms of time spent at high load conditions.



CBI / Ex. 4

Please let me know if you need more information.

Andrew S. Barren
Technical Fellow - Emissions Regulations
andrew.s.barren@gm.com
T 248.388.8253 | C 248.388.8253



MY2014 LUZ – EGR Operation

- The amount of time spent on or near the torque curve is limited for passenger car vehicles
- The charts below show the amount of time the vehicle operated within a certain fueling level of the torque curve

CBI / Ex. 4

Key Message: Vehicle operation in the real world closely mimics test and durability cycles

 General Motors Company

15 Oct 2014 PT Engineering



From: Kim, Seong@ARB [<mailto:skim@arb.ca.gov>]
Sent: Friday, February 06, 2015 6:11 PM
To: Andrew S. Barren
Cc: Randall C. Harvey; Nguyen, Duc@ARB
Subject: RE: EGR [CBI/Ex. 4] requirements on LD diesels

Hi Andy,

Prior to meeting with you for discussion, we need more information regarding the EGR modulation/deactivation. Can you be more specific on what condition the EGR is deactivated/modulated? You can explain this on FTP, SFTP and highway test cycle.

Is SCR working on those deactivation and modulation of EGR? How is NOx emission affected?

Thanks,
Seongyup

From: Andrew S. Barren [<mailto:andrew.s.barren@gm.com>]
Sent: Thursday, January 22, 2015 6:57 AM
To: Nguyen, Duc@ARB; Lourenco, Jackie@ARB
Cc: Kim, Seong@ARB; Randall C. Harvey; David W. Schruppf; David B. Brown
Subject: EGR CBI / Ex. 4 requirements on LD diesels

Duc and Jackie,

Wondering if you have time for a call tomorrow (Friday, Jan 23rd) to discuss my favorite topic; ARB's requirement to CBI / Ex. 4 EGR at all times on diesel engines? I'm open all day.

I'd like to recap the issue here.

CBI / Ex. 4

Thanks for the consideration and time.

Andrew S. Barren
Technical Fellow - Emissions Regulations
andrew.s.barren@gm.com
T 248.388.8253 | C 248.388.8253



Nothing in this message is intended to constitute an electronic signature unless a specific

statement to the contrary is included in this message.

Confidentiality Note: This message is intended only for the person or entity to which it is addressed. It may contain confidential and/or privileged material. Any review, transmission, dissemination or other use, or taking of any action in reliance upon this message by persons or entities other than the intended recipient is prohibited and may be unlawful. If you received this message in error, please contact the sender and delete it from your computer.

Nothing in this message is intended to constitute an electronic signature unless a specific statement to the contrary is included in this message.

Confidentiality Note: This message is intended only for the person or entity to which it is addressed. It may contain confidential and/or privileged material. Any review, transmission, dissemination or other use, or taking of any action in reliance upon this message by persons or entities other than the intended recipient is prohibited and may be unlawful. If you received this message in error, please contact the sender and delete it from your computer.

Nothing in this message is intended to constitute an electronic signature unless a specific statement to the contrary is included in this message.

Confidentiality Note: This message is intended only for the person or entity to which it is addressed. It may contain confidential and/or privileged material. Any review, transmission, dissemination or other use, or taking of any action in reliance upon this message by persons or entities other than the intended recipient is prohibited and may be unlawful. If you received this message in error, please contact the sender and delete it from your computer.